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[FIG. 1]

- 2: PRODUCTION PROCESS MODEL
- 3: PRODUCTION RULES (PART INPUT RULE, DISPATCHING RULE)
- 4: EVENT-BASED SIMULATOR
- 5: PRODUCTION PLAN
- 6: TIME-INTERVAL-BASED SIMULATOR
- 7: RULE GENERATOR

[FIG. 2]

- A1: START
- 2: PRODUCTION PROCESS MODEL
- 5: PRODUCTION PLAN
- 8: SET DATA, INITIALIZE
- 9: HAS SIMULATION END TIME COME?
- 10: UPDATE PRODUCTION STATUS
- 11: UPDATE SIMULATION TIME
- A2: END

[FIG. 3]

- 12: PRODUCT
- A1: ORDER RATE
- PROCESS FLOW
- INPUT [0 ... SIMULATION END TIME]
- GROSS PRODUCTION
- 13: PROCESS

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A2: MACHINE USED

PROCESSING TIME

QUANTITY OF PRODUCTION [0 ... SIMULATION END TIME]

QUANTITY DEMANDED [0 ... SIMULATION END TIME]

QUANTITY OF WORK IN PROCESS [0 ... SIMULATION END TIME]

14: MACHINERY

A3: NUMBER OF MACHINES

OPERATION RATE [0 ... SIMULATION END TIME]

A4: GIVEN CONDITION

A5: RESULT OF PLANNING

[FIG. 4]

A1: TIME

A2: (n-1) TIME SEGMENT

A3: n TIME SEGMENT

A4: (n+1) TIME SEGMENT

A5: TIME INTERVAL (e.g. ONE HOUR)

A6: SIMULATION END TIME

[FIG. 5]

A1: START

16: HAS PROCESSING OF ALL MACHINES BEEN COMPLETED?

17: UPDATE OPERATION RATE OF MACHINE

18: HAS PROCESSING PERTAINING TO ALL PROCESSES OF THE MACHINE
BEEN COMPLETED?

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19: COMPUTE QUANTITY DEMANDED
20: COMPUTE QUANTITY OF PRODUCTION
21: ASSIGN QUANTITY OF PRODUCTION TO MACHINE
A2: END

[FIG. 6]

A1: VOLUME OF INVENTORY
A2: OPERATION RATE OF MACHINE
A3: BACK ORDER
A4: REMAINING PROCESSING TIME
A5: BIAS
A6: INPUT RULES
A7: 00: NO INPUT
01: INPUT AT MEAN DEMAND RATE
10: INPUT GIVEN INVENTORY
11: MEAN DEMAND RATE + INPUT GIVEN INVENTORY

[FIG. 9]

110: CONTROL SYSTEM
100: PRODUCTION FACILITY

[FIG. 10]

A1: START
S10: INITIAL SETTING
S20: COMPUTE QUANTITY OF WORK IN PROCESS

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S30: IS QUANTITY OF WORK IN PROCESS EQUAL TO ALLOWABLE RANGE
OR LESS?

S40: CHANGE PARAMETER

S50: CONTROL PRODUCTION

A2: END

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